Patent Claims:

1. Method for determining a threshold value (O_{max}, O_{min}, O_{TR}) serving to limit the output signal of a processing unit into which an input signal has been fed, characterized in that the level of the input signal is determined and that the threshold value (O_{max}, O_{min}, O_{TR}) is set as a function of that level of the input signal.

2. Method as in claim 1, characterized in that from the said level a mean level (I) is derived on the basis of which the threshold value (O_{max}, O_{min}, O_{TR}) is set, with preferably only ambient noise contained in the input signal being factored in.

3. Method as in claim 2, characterized in that the threshold value (O_{TR}) is set by a differential amount (TR_{max}) above the mean level (I) of the input signal, said differential amount (TR_{max}) preferably being equal to twenty decibels.

4. Method as in claim 2, characterized in that the mean level (I) is derived from the input signal s(t) along the following formula:

$$I = \frac{1}{T} \times \int_{0}^{T} |s(t)| \times dt$$

whereby an averaging function is performed over a time interval T having a duration of preferably five seconds.

5. Method as in one of the claims 1 to 4, characterized in that a maximum threshold value (O_{max}) is established.

6. Method as in claim 5, characterized in that the maximum threshold value (O_{max}) is so selected as to be equal to an upper comfort level of a hearing-impaired person.

7. Method as in one of the claims 1 to 6, characterized in that a minimum threshold value (O_{min}) is established.

8. Method as in claim 7, characterized in that the minimum threshold value (O_{min}) is so selected as to be equal to an output level that results from an input level of preferably 80 dB and the corresponding amplification at that input level that is produced for a hearing-impaired person.

9. Method as in one of the claims 2 to 8, characterized in that the differential amount (TR_{max}) is adjusted along a compression ratio for a hearing-impaired person.

10. Application of the method per one of the claims 1 to 9 for operating a hearing aid.

11. Application of the method per one of the claims 6, 8 or 9 for operation of a hearing aid by a hearing-impaired person.

12. System for implementing the method per one of the claims 1 to 9, characterized in that a processing unit is provided which receives an input signal and which permits within the processing unit the determination of a threshold value (O_{max}, O_{min}, O_{TR}) for the purpose of limiting the output signal, said threshold value (O_{max}, O_{min}, O_{TR}) being adjustable as a function of the level of the input signal.

13. System as in claim 12, characterized in that from the level of the input signal a mean level (I) can be determined by averaging, preferably derived only from the ambient noise contained in the input signal.

14. System as in claim 12 or 13, characterized in that the threshold value (O_{TR}) can be adjusted to a point which by a differential amount (TR_{max}) is above the mean level (I) of the input signal, said differential amount (TR_{max}) preferably being equal to twenty decibels.

15. System as in claim 14, characterized in that the mean level (I) can be derived from the input signal s(t) by employing the following formula:

$$I = \frac{1}{T} \times \int_{o}^{T} |s(t)| \times dt$$

where an averaging function can be performed over a time interval T with a duration of preferably five seconds.

16. System as in one of the claims 12 to 15, characterized in that it permits a maximum threshold value (O_{max}) to be established.

17. System as in claim 16, characterized in that the maximum threshold value (O_{max}) can be selected to be equal to the upper comfort level of a hearing-impaired person.

18. System as in one of the claims 12 to 17, characterized in that it permits a minimum threshold value (O_{min}) to be established.

19. System as in claim 18, characterized in that the minimum threshold value (O_{min}) can be selected to be equal to the mean amplification value for a hearing-impaired person.

20. System as in one of the claims 13 to 19, characterized in that the differential amount (TR_{max}) can be adjusted corresponding to the compression ratio for a hearing-impaired person.